

following psychological researches: In the study of the content of consciousness as regards the relative ease of recognizing an object and its reverse, either when seen alone or in various series. In studies of memory, by measurements of the length of time after which a given blot, straight or reversed, may be recognized; also by the relative power of reproducing after an interval the outline of an exposed character. In the study of Imagination, qualitatively, in various ways, and quantitatively, by measurements of the relative times required for a presented suggestive blot to bring to mind its obvious likeness. In determinations of reaction time with choice. In study of the discrimination of minute formal differences. In the study of after-images of various colors, and positive or negative. In studying Association.

The advantages of blots or characters thus made seem to be these; The practical infinity of their variety; the ease, rapidity, and cheapness of their production in black or colors; the facility with which exact reverses are made; the lack of associational suggestiveness of many of them, and on the other hand the ease with which suggestive ones may be obtained; and the unlimited range in size.

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THE IMAGERY OF ONE EARLY MADE BLIND.

I became blind at the age of five years and one month, in August of 1877. My home was then in New Brunswick, Canada. I have an image in my mind of many of the scenes which I saw before losing my sight. I remember how the trees looked across the river where they seemed to disappear into the sky and I believed they supported the sky. I remember how the small ships which used to come up the river looked. I also have a vivid picture of the falls in the river. I used to sit on the edge of the bank overlooking the falls and gaze down about fifty feet at the water. In fact I remember almost everything which I saw during the last summer while I possessed my sight.

My Idea of Space.—When I contemplate a geometric proposition, it is presented to my mind raised on a piece of paper. When I studied geometry I had all the diagrams used to prove the proposition raised on paper. Thick pasteboard was used so that the figure would endure. Any geometric proposition, therefore, appears to me raised on such a figure as I then used.

When I wish to represent to myself something infinitesimally small, I take a thin piece of paper and tear it in halves; then I tear one of the halves in halves and continue this process until I have the smallest

piece of paper which I can hold in my hands ; then I consider that subdivided as many times as I subdivided the original piece of paper, and then again what is obtained by that subdivision again subdivided, and so on until I can think no longer of the subdivisions for mere infinity of numbers, and still I do not feel satisfied when geometers make a leap in the dark from this smallest conceivable to zero. I can not understand how zero can ever be reached in this way. The longer the piece of paper which I at first divided is the more thoroughly can I approach to the minutest possible in the repeated subdivisions.

When I wish to represent to myself the infinitely long I consider myself in an extended body of water with a life preserver on. I have sometimes been in the water in such a manner ; and if I can hear no one on the shore, there comes to me some idea of what infinity is. My home is on the shore of Lake Superior and when in that body of water facing away from the land, there comes to me some idea of infinity.

I consider infinity going away just as I would swim away from the land. I might swim and swim and still I would never come to a stopping place in that body of water ; and infinity would go on before me to the opposite shores of the lake four hundred miles away and still it would continue beyond that point an infinite number of times. Or again, I represent infinity to myself as the rails of an extended railroad track. When I wish to represent to myself two parallel lines which, however, far produced will never meet, I consider the lines of the track. I have frequently followed these rails for a long distance, fourteen miles being the farthest I have ever gone at once ; and from this distance I can consider those rails continuing on in that same line with that same distance between them for an infinitely greater distance than I have ever walked.

Of course I was not old enough when I lost my sight to consider infinity, but I do remember looking up into the sky and wondering what was beyond that and how far it went. I distinctly remember seeing a ball thrown up into the air as far as I could follow it with my eyes, and from that I got my only seeing conception of infinity. I lost my eyes with scarlet fever, and before the sickness came on they were as perfect as any eyes.

I cannot consider in my mind at once a figure of more than six sides. If I wish to consider more sides than that, I have to consider them in parts of three or four sides at a time. I have to go round the figure in my mind slowly. I cannot conceive in my mind at once a polygon of an infinite number of sides, nor can I imagine how a polygon of an infinite number of sides could ever merge into a circle.